

CLAIMS

1. A method of initiating a handoff in a wireless communication system among a mobile station and a plurality of cells, comprising the steps of:
 - transmitting a first pilot strength measurement message from a mobile station to a base station;
 - assigning a Walsh code channel for a first forward link dedicated control channel;
 - assigning a Walsh function to the mobile station to provide early soft handoff capability to a first forward dedicated traffic channel; and
 - transmitting a first message type (eghdm) from a base station to a mobile station containing information to start reception by the mobile station on the forward dedicated control channel of said first message.
2. The method as in claim 1 further including the step of :
 - conveying a predetermined time interval to the mobile station within said first message type.
3. The method of claim 2 further including the step of:
 - starting a timer based on a time of reception of said first message type.
4. The method of claim 3 further including the steps of:
 - incrementing the timer until its value exceeds a predetermined threshold (t_dcch);
 - measuring a received pilot signal strength; and
 - if said received pilot signal strength exceeds a predetermined (IS95B) threshold, adding the associated pilot to an Active set for a forward dedicated control channel.
5. A method of initiating a handoff in a wireless communication system among a mobile station and a plurality of base stations, comprising the steps of:
 - transmitting a first pilot strength measurement message from a mobile station to a base station to add a new pilot to its active set for a forward data control channel; and
 - optionally transmitting at least one additional pilot strength measurement signal from the mobile station to the base station to add a pilot to its active set for a forward dedicated traffic channel.

6. The method of claim 5 further including the step of:
adding a field in a first message (ESPM) and second message (GHDM) when a measured pilot strength in a predetermined group exceeds a calculated threshold.

7. The method of claim 6 wherein said predetermined group is one of neighbor set and remaining set.

8. The method of claim 7 wherein the measured pilot strength satisfies:

$$10 \times \log_{10} PS > \max\left(\frac{SOFT_SLOPE}{8} \times 10 \times \log_{10} \sum_{i \in A} PS_i + \frac{ADD_INTERCEPT_dcch}{2}, \frac{T_ADD}{2}\right)$$

wherein the summation is performed over all pilots in an active set, and
SOFT_SLOPE and ADD_INTERCEPT are base station configurable parameters.

9. The method as in claim 8 further including the step of :
conveying a predetermined time interval to the mobile station within said first message type.

10. The method of claim 9 further including the step of:
starting a timer based on a time of reception of said first message type.

11. The method of claim 10 further including the steps of:
incrementing the timer until its value exceeds a predetermined threshold
(t_dcch);
measuring a received pilot signal strength; and
if said received pilot signal strength exceeds a predetermined (IS95B) threshold,
adding the associated pilot to an Active set for a forward dedicated control channel.

12. An apparatus for initiating a handoff in a wireless communication system
among a mobile station and a plurality of cells, comprising:

means for transmitting a first pilot strength measurement message from a mobile
station to a base station;

means for assigning a Walsh code channel for a first forward link dedicated
control channel;

means for assigning a Walsh function to the mobile station to provide early soft
handoff capability to a first forward dedicated traffic channel; and

means for transmitting a first message type (eghdm) from a base station to a mobile station containing information to start reception by the mobile station on the forward dedicated control channel of said first message.

13. The apparatus as in claim 12 further including:

means for conveying a predetermined time interval to the mobile station within said first message type.

14. The apparatus of claim 13 further including:

means for starting a timer based on a time of reception of said first message type.

15. The apparatus of claim 14 further including:

means for incrementing the timer until its value exceeds a predetermined threshold (t_{dcch});

means for measuring a received pilot signal strength; and

means for adding the associated pilot to an Active set for a forward dedicated control channel if said received pilot signal strength exceeds a predetermined (IS95B) threshold.

16. An apparatus of initiating a handoff in a wireless communication system among a mobile station and a plurality of base stations, comprising:

means for transmitting a first pilot strength measurement message from a mobile station to a base station to add a new pilot to its active set for a forward data control channel; and

means for optionally transmitting at least one additional pilot strength measurement signal from the mobile station to the base station to add a pilot to its active set for a forward dedicated traffic channel.

17. The apparatus of claim 16 further including:

means for adding a component to a first message (ESPM) and second message (GHDM) when a measured pilot strength in a predetermined group exceeds a calculated threshold.

18. The apparatus of claim 17 wherein said predetermined group is one of neighbor set and remaining set.

19. The apparatus of claim 18 wherein the measured pilot strength satisfies:

$$10 \times \log_{10} PS > \max\left(\frac{SOFT_SLOPE}{8} \times 10 \times \log_{10} \sum_{i \in A} PS_i + \frac{ADD_INTERCEPT_dcch}{2}, \frac{T_ADD}{2}\right)$$

wherein the summation is performed over all pilots in an active set, and SOFT_SLOPE and ADD_INTERCEPT are base station configurable parameters.

20. The apparatus as in claim 8 further including:

means for conveying a predetermined time interval to the mobile station within said first message type.

21. The apparatus as in claim 9 further including:

means for starting a timer based on a time of reception of said first message type.

22. The apparatus of claim 21 further including:

means for incrementing the timer until its value exceeds a predetermined threshold (t_{dcch});

means for measuring a received pilot signal strength; and

means for adding the associated pilot to an Active set for a forward dedicated control channel if said received pilot signal strength exceeds a predetermined (IS95B) threshold.